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THE SOVIET CRISIS RELOCATION PROGRAM

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Soviet manuals do provide examples of the content of crisis relocation plans of large industrial enterprises. As noted above, such plans specify the number of workers, employees and family members subject to dispersal or evacuation; the assigned hosting areas and localities; the transportation means to be used and their scheduled arrival and departure; the location and number of evacuation assembly points established by the enterprise; the travel routes for transportation and foot columns; points of boarding means of transportation and debarkation; schedules for relocating workshifts; the provisioning of the workers and their family members with individual means of protection; the location of the enterprise's command post in the exurban area; the communications frequencies, call names and nets to be used; the deployment of civil defense forces; and the availability of shelters at the enterprise and in the hosting areas.^{48/}

According to a hypothetical civil defense plan of an industrial enterprise published in a Soviet civil defense manual, Figure 5.2 shows the entries dealing with crisis relocation.^{49/}

The example of a crisis relocation plan shown in Figure 5.2 is not necessarily complete. There will be various lists, maps, schedules, and other attachments—including specific lists of workers and family members who will be evacuated by transport and on foot; specific assignments of means of transport and movement schedules; allocations of hosting localities or part of localities to shops and departments, and so on. According to one manual, the attachments will include a map of the city showing the locations of the enterprise, the evacuation assembly points, and the number of workers assigned to each of them; the location of railroad stations and designated places of boarding of vehicle convoys and boats; the time of arrival of transport and their capacities; the best routes to the evacuation assembly points; and the transport boarding points and traffic control points (see Figure 5.3).^{50/} Another set of attachments will consist of maps or diagrams of evacuation routes—especially routes to be used by foot columns—indicating points of assembly

location of the hosting localities assigned to the enterprise, the means of transportation available to it, the routes to be used by vehicles and by marching columns of employees and their families, and the amount of time allocated to the execution of the relocation.^{44/}

In the case of the chief of civil defense, staffs and evacuation reception commissions in the exurban areas, the required information for planning purposes will include: the number of evacuees assigned to a given hosting area or locality; the schedule of arrival of trains, motor convoys, boats and marching columns; the location of intermediate evacuation points; the amount and types of transportation means available for moving evacuees from the intermediate evacuation points to their final destinations; the location of disembarkation points for trains and boats; the availability of housing space, supplies, water and other support capabilities and services in the hosting areas; and what supplies, equipment and service capabilities will be relocated from the cities to the hosting areas.^{45/}

5.4 CHARACTER AND CONTENT OF CRISIS RELOCATION PLANS

Crisis relocation plans at all levels are a part of the general plans covering all aspects of civil defense. A crisis relocation plan consists of written documents specifying various directives, assignments, schedules and information, supplemented by lists, diagrams, time tables, maps, charts, logistic tables, and so on.^{46/} Essentially, the plans indicate who will be dispersed and who will be evacuated; the locations and assignments of hosting areas; when the relocation should begin after it is ordered; the use and allocation of means of transportation and routes; the number of persons to be evacuated on foot, their points of departure, routes of march; the number and location of evacuation assembly points, transportation boarding points, and intermediary evacuation points; the distribution of supplies and location of stocks; services and personnel who manage and assist in the implementation of crisis relocation; movement schedules, and so on.^{47/}

CIVIL DEFENSE PLAN OF THE No. 135 MECHANICAL PLANT

Short description and main task of CD of the enterprise.

The enterprise is located in the Western section of City X, in its industrial microrayon [park]. On the basis of its significance, the enterprise is assigned to the Y category for CD purposes....

The enterprise is connected to the railway freight station by a spur ... km long.

The planned number of workers and employees of the enterprise is ... persons.

With the occurrence of a threat of enemy attack, the enterprise shifts to a two-workshift system....

The hosting area for the workers and employees is ... km from the Evacuation Assembly Point. The round trip by transport of the duty workshift will require ... hours, including time for assembly and boarding of means of transportation.

The prevailing winds are from an easterly direction. In the event of a nuclear detonation in the center of the city, the territory of the enterprise may be in a zone of radioactive contamination....

By directives of the Ministry and the decisions of the Chief of Civil Defense of the Z Rayon, the enterprise is assigned the following main CD tasks:

:
:
To disperse the workers and employees and resettle them in the exurban zone in ... hours following the announcement of a threat of an enemy attack;

To carry out the evacuation of the family members of the workers and employees of the enterprise to the exurban zone by the combined method in ... hours;

Dispersal of workers and employees and Evacuation of Members of Their Families to the Exurban Zone

Upon receiving orders from the CD staff to execute the dispersal of the enterprise's workers and employees and the evacuation of members of their families to the exurban zone by the combined method: transport by rail and motor vehicles ... persons, move on foot ... persons.

The scheduled workshift, the personnel of [civil defense] formations, and family members will travel by transport according to the lists of the enterprise's CD staff.

The order and timing of the dispersal and evacuation will be in accordance with the calculations of the enterprise's CD staff.

For the assembly, registration and dispatching of personnel to the exurban zone, there will be established Evacuation Assembly Points (SEPs):

SEP No. 1, located in the enterprise's club, will be assigned to shops No. 1, 2, 3, 4, 8, 10, 11, 12, and 13. In all, ... workers, employees and members of their families are assigned to SEP No. 1. The chief of SEP No. 1 is I. V. Petrov;

SEP No. 2, located in the Shipping-Loading Administration Office, is assigned to No. 5, 6, 7, and 9 shops and departments. In all, ... workers, employees and members of their families are assigned to SEP No. 2. The chief of SEP No. 2 is I. I. Korolev.

The SEPs will be brought to full readiness in ... hours following the order to begin the evacuation.

For the transportation of children, the elderly and sick persons from the disembarkation points and the evacuation reception point to the place of resettlement, the local [i.e., rural] CD staff will provide buses....

The resettlement of the workers, employees and members of their families in the exurban zone [i.e., hosting area] will be carried out in accordance with the diagram (see Attachment X).

The work and travel of the duty workshift to the enterprise and [back to] the exurban zone will be carried out according to a sliding schedule (see Attachment Y).

Providing Workers, Employees and Members of their Families with Individual Means of Protection:

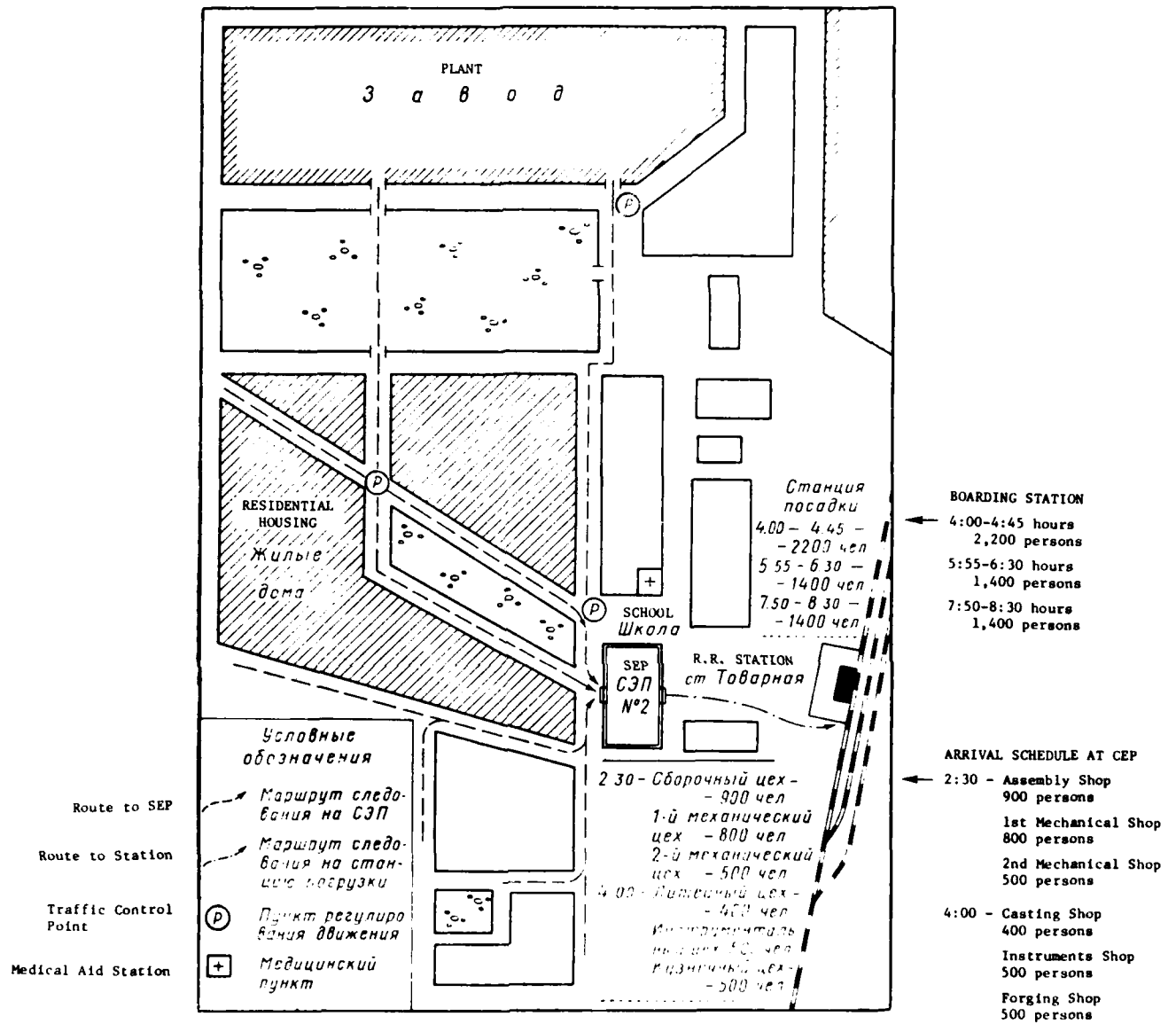
Provide the personnel of [CD] formations, workers, employees and members of their families with individual means of protection from the means kept in storage and also from means provided by the rayon CD staff.

Issue individual means of protection and individual means of medical protection by shops and departments according to the time indicated in the plan.

Issue individual means of protection first of all to the personnel of [CD] formations. The chiefs of the Anti-Radiation and Anti-Chemical Defense Service are to check the technical state of the individual means of protection in ... hours.

Workers, employees and members of their families should also have simple means of protection (respirators and anti-dust gauze masks).

Figure 5.2 Hypothetical Civil Defense Plan of an Industrial Enterprise



SOURCE: N.P. Krechetnikov and N.P. Olovyanishnikov, *Grazhdanskaya Oborona na Mashino-Stroitel'nykh Predpriyat'yakh*, (Moscow: Mashinostroyeniye, 1972), p. 48.

Figure 5.3 Schedules for Use of Evacuation Assembly Point and Railroad Station by an Industrial Plant

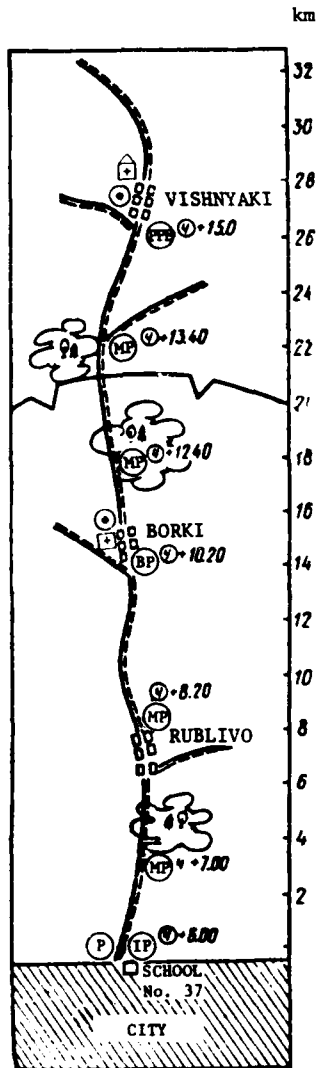
and departure, the number of each column, the number of persons assigned to each column, departure times, control points, rest stops, medical aid posts, watering and warming up points, intermediate evacuation points, etc. (see Figure 5.4).^{51/} Other attachments will consist of tables dealing with assigned transport, the organization of convoys and their schedules, points of disembarkation, schedules for transporting personnel who marched on foot to intermediate evacuation points to their assigned hosting areas, etc.^{52/} Finally, there may be lists of personnel assigned to operate evacuation assembly points, lead train and vehicle convoys and foot columns, man control points, as well as of personnel who will be dispatched right away to the hosting areas to coordinate the arrival and resettlement of the evacuees with the local staffs and evacuation reception commissions.

Essential enterprises may also develop alternate plans which allow for the staggered evacuation of the workshifts or the simultaneous evacuation of the entire workforce. For example, the plan may allow for dispersing first either the duty shift or the resting shift, or it may establish a staggered evacuation schedule to keep the requirements for transport to a minimum.^{53/}

A separate section of the plan is prepared by the Material-Technical Supply Service of the enterprise. It will indicate how and where the enterprise's vehicle convoys will be provided with fuel, emergency repairs and maintenance; where the evacuees will be issued food; and what stores or stocks will supply the food and goods of basic necessity to the evacuees during the relocation process and to the workshifts at the enterprises.^{54/}

The hosting areas in turn will develop, on the basis of information provided by the urban civil defense staffs and evacuation commissions, appropriate plans for the reception, resettlement, supplying and protection of the evacuees assigned to them (see Section 8).

The civil defense staffs, evacuation commissions and evacuation reception commissions at all levels are responsible for the proper



NOTATIONS

Length of route—26 km.

Assembly and departure point—School No. 37, Peschanaya St., No. 90, Tel. No. 130-90-37.

Telephones along route at collective farm "Rassvet," Borki Village.

Borki has a food and clothing store and restaurant with 80 seats, a club house with 200 spaces, a Medical Aid Station (1 doctor, 2 nurses), and an artesian well.

Intermediate Evacuation Point is at Vishnyaki. Telephone in House of Culture and space for 300 persons, a secondary school with space for 500 persons; stores: food-2, clothing-1, household goods-1, restaurant with 150 seats, hospital with 30 beds, artesian well and water system.

All rest stops: in the summer, in the woods; in winter in inhabited points.

From the Intermediate Evacuation Point, evacuees will be transported by state farm "Vishnyaki" in D+2.

LEGEND

- ④ Hour of announcement of the start of evacuation
- ⊕ Intermediary Evacuation Point
- Ⓜ Short rest stop
- Ⓟ Long rest stop
- Ⓟ Traffic control point
- Ⓜ Point of departure
- Watering point
- ⊕ Medical aid point
- ⏏ Hospital

SOURCE: P.T. Egorov, I.A. Shlyakhov, and N.I. Alabin, Grazhdanskaya Oborona, 3rd edition, (Moscow: Vysshaya Shkola, 1977), p. 93.

Figure 5.4 March Route by a Foot Column From the City to the Intermediate Evacuation Point

dissemination of planning and instruction documents in peacetime, the safekeeping of the documents, and their correct distribution at the start of the crisis relocation. While precise information about Soviet peacetime practices in the matter of dissemination of relocation planning documents is lacking, it appears that such documents are usually fairly closely held and shown only on a need-to-know basis to authorized personnel. Although in some cases employees and workers of large enterprises appear to have been told in the course of civil defense instruction the location of their assigned hosting areas and the method of transportation to them, in other cases such information is kept secret by the managers and civil defense staffs.^{55/} In general, it appears that the Soviets tend to consider crisis relocation plans to be an element of national defense planning and, therefore, treat their content as a sensitive matter. The same secrecy applies to plans for the mobilization of the economy for defense production and to the specific plans of enterprises to convert to such production in time of crisis. Naturally the Soviet authorities are also secretive about which plants and installations and specific elements of the workforce will be in the "essential" category in wartime.

There is no indication in Soviet publications how frequently the relocation plans are reviewed, updated or revised at the various levels, and whether there is a schedule for such reviews and revisions. No doubt updates and revisions are necessary from time to time for various reasons, such as urban growth, economic development, demographic changes in rural areas, changes in transportation capabilities and routes, etc. Major revisions—especially those affecting the allocation of hosting areas, transportation and evacuation routes, and the scheduling of evacuation movements—will impact planning at many levels and require new coordination efforts. Given the complexity of this process, it is likely that the civil defense staffs are reluctant to undertake major plan revisions and, consequently, will wait for orders from higher levels to do so. Presumably, minor updates and revisions are carried out in the course of and as a result of command-staff and integrated exercises which are fairly regularly held at various levels.

Although Soviet manuals do not discuss this, it appears that, at least in the case of large cities, the oblast or republic civil defense staffs will play a direct role in supervising, directing and coordinating the implementation of crisis relocation. There are indications that each of these large cities and adjacent hosting areas will be divided into sectors, and that each sector will be under the control of a sectorial staff drawn from the oblast (republic) staff. The sectorial staff will have overall control over the urban and rural rayon staffs, civil defense forces and all resources in its sector.

On the whole, it appears that Soviet crisis relocation plans are comprehensive, detailed, and fairly well coordinated. They deal with all elements of the relocation process. This does not mean, however, that the plans, especially at the lower levels, are always entirely realistic or devoid of errors. At least in theory, shortcomings should have become evident and be corrected in the course of exercises.^{56/} However, in the absence of large-scale relocation exercises, it may not be possible to adequately test the realism and correctness of the plans (see Section 10).

Section 5

FOOTNOTES

1. Lieutenant General D.A. Krutskikh, editor, Uchebno-Metodicheskoye Posobiye po Podgotovke Rukovodyashchego i Komandno-Nachal'stvuyushchego Sostava Grazhdanskoy Oborony (Instruction-Methodological Manual for the Training of the Chiefs and Command-Leadership Elements of Civil Defense), (Moscow: Voenizdat, 1978), p. 23. See also Army General A.T. Altunin, editor, Grazhdanskaya Oborona (Civil Defense), (Moscow: Voenizdat, 1980), p. 43; N.I. Akimov and V.G. Il'in, Grazhdanskaya Oborona na Obektakh Sel'skokhozyaystvennogo Proizvodstva (Civil Defense at Installations of Agricultural Production), (Moscow: Kolos, 1973), pp. 20, 146; V.G. Strekozov, Oboronnaya Rabota Mestnykh Sovetov (Defense Work of Local Soviets), (Moscow: Yuridicheskaya Literatura, 1981), p. 50.
2. Strekozov, op. cit., p. 50.
3. Altunin, op. cit., p. 43; P.T. Bykov, M.A. Belikov, I.F. Vydrin et al., Nachal'naya Voyennaya Podgotovka (Initial Military Training), (Moscow: Voenizdat, 1979), p. 272.
4. N.P. Krechetnikov and N.P. Olovyanishnikov, Grazhdanskaya Oborona na Mashino-Stroitel'nykh Predpriyatiyakh (Civil Defense at Machine Building Enterprises), 2nd edition, (Moscow: Mashinostroyeniye, 1972), p. 43.
5. Ibid., p. 33.
6. Krutskikh, op. cit., p. 23. See also P.T. Egorov, I.A. Shlyakhov and N.I. Alabin, Grazhdanskaya Oborona, 3rd edition, (Moscow: Vysshaya Shkola, 1977), p. 87; Krechetnikov and Olovyanishnikov, op. cit., p. 60.
7. Krutskikh, op. cit., p. 23.
8. Krechetnikov and Olovyanishnikov, op. cit., p. 60; Akimov and Il'in, op. cit., p. 147; Egorov et al., op. cit., p. 88.
9. Egorov et al., op. cit., p. 88; Akimov and Il'in, op. cit., p. 147.
10. Egorov et al., op. cit., p. 88; Krechetnikov and Olovyanishnikov, op. cit., p. 60.
11. N.I. Akimov and V.G. Il'in, Grazhdanskaya Oborona na Obektakh Sel'skokhozyaystvennogo Proizvodstva, 2nd edition, (Moscow: Kolos, 1978), p. 107.

12. Akimov and Il'in, op. cit., 1st edition, p. 146, and 2nd edition, p. 102; Krechetnikov and Olovyanishnikov, op. cit., pp. 43, 45; Egorov et al., p. 86.
13. Civil Defense Staff of the Lithuanian SSR, Uchebno-Metodicheskoye Posobiye dlya Podgotovke Naseliniya k Grazhdanskoy Oborone (Instruction-Methodological Manual for the Training of the Population in Civil Defense), (Vilnius: Mintis, 1967), p. 71.
14. Egorov et al., op. cit., p. 176.
15. "A Transportation Order Has Been Received," Voyennyye Znaniya (Military Knowledge), No. 5, May 1969, pp. 22-23; Yu. Chernyshev, "Network Planning," Voyennyye Znaniya, No. 5, May 1969, pp. 29-30.
16. Akimov and Il'in, op. cit., 1st edition, p. 20.
17. Egorov et al., op. cit., p. 88; Akimov and Il'in, op. cit., 1st edition, p. 142.
18. For example, see Akimov and Il'in, op. cit., 2nd edition, pp. 107-108.
19. Egorov et al., op. cit., p. 88; Krechetnikov and Olovyanishnikov, op. cit., p. 61.
20. Akimov and Il'in, op. cit., 1st edition, p. 298.
21. Egorov et al., op. cit., p. 86.
22. Civil Defense Staff of the Lithuanian SSR, op. cit., p. 70.
23. A.S. Balayev, editor, Bor'ba s Pozharami na Obektakh Narodnogo Khozyaystva v Usloviyakh Yadernogo Porazheniya (Firefighting at Installations of the National Economy Under Conditions of Nuclear Destruction), (Moscow: Voenizdat, 1973), p. 12.
24. M.N. Titov, P.T. Egorov and B.A. Gayko, Grazhdanskaya Oborona, (Moscow: Vysshaya Shkola, 1974), p. 46.
25. Krechetnikov and Olovyanishnikov, op. cit., p. 60. See also P.T. Egorov, I.A. Shlyakhov and N.I. Alabin, Grazhdanskaya Oborona, 2nd edition, (Moscow: Vysshaya Shkola, 1970), p. 119.
26. Egorov et al., op. cit., 2nd edition, p. 119.
27. Bykov et al., op. cit., p. 272.
28. Egorov et al., op. cit., 3rd edition, p. 86.

29. Ibid., p. 85.
30. Krechetnikov and Olovyanishnikov, op. cit., p. 61.
31. Egorov et al., op. cit., 3rd edition, p. 86; Akimov and Il'in, op. cit., 1st edition, p. 146; Titov et al., op. cit., p. 167.
32. Civil Defense Staff of the Lithuanian SSR, op. cit., p. 73; Titov et al., op. cit., pp. 167-168; N.P. Olovyanishnikov, Grazhdanskaya Oborona, (Moscow: Vysshaya Shkola, 1979), p. 47; Colonel A. Tsyganok, "In One's Own Cars," Voyennyye Znaniya, No. 11, November 1974, p. 27.
33. Egorov et al., op. cit., 2nd edition, p. 119, and 3rd edition, p. 86.
34. See M.M. Babadzhanov and Ya.V. Lidskiy, Osnovy Meditsinskoy Sluzhby Grazhdanskoy Oborony (Fundamentals of Civil Defense Medical Service), (Tashkent: Meditsina, 1970), passim; V.A. Rybasov, Organizatsiya Meditsinskoy Sluzhby Grazhdanskoy Oborony (Organization of the Civil Defense Medical Service), (Moscow: Meditsina, 1970), passim; F. Korotkov, editor, Meditsinskaya Sluzhba Grazhdanskoy Oborony (Civil Defense Medical Service), (Moscow: Meditsina, 1975), passim.
35. Akimov and Il'in, op. cit., 2nd edition, p. 110.
36. Egorov et al., op. cit., 2nd edition, p. 119, 3rd edition, p. 86.
37. Akimov and Il'in, op. cit., 1st edition, p. 15; M.P. Tsivilev, A.A. Nikanorov and B.M. Suslin, Inzhenerno-Spasatel'nye Raboty (Engineering-Rescue Work), (Moscow: Voenizdat, 1975), p. 78.
38. Egorov et al., op. cit., 2nd edition, p. 119, 3rd edition, p. 86.
39. See L. Goure, Shelters in Soviet War Survival Strategy, (Washington, D.C.: Advanced International Studies Institute, 1978), pp. 24-36.
40. Egorov et al., op. cit., 3rd edition, p. 86. The second edition of this manual does not mention this requirement, see op. cit., 2nd edition, p. 119.
41. Egorov et al., op. cit., 3rd edition, p. 86.
42. Ibid.
43. Ibid., p. 85; Krutskikh, op. cit., p. 22.
44. Egorov et al., op. cit., 3rd edition, p. 178.

45. Akimov and Il'in, op. cit., 2nd edition, pp. 107-108.
46. Egorov et al., op. cit., 2nd edition, p. 120, 3rd edition, p. 176; Krechetnikov and Olovyanishnikov, op. cit., p. 45.
47. Egorov et al., op. cit., 2nd edition, p. 120, 3rd edition, pp. 178-183.
48. Krechetnikov and Olovyanishnikov, op. cit., p. 44.
49. Egorov et al., op. cit., 3rd edition, pp. 178-180.
50. Krechetnikov and Olovyanishnikov, op. cit., p. 45.
51. Egorov et al., op. cit., 3rd edition, p. 87.
52. Krechetnikov and Olovyanishnikov, op. cit., p. 45.
53. Ibid., p. 47.
54. Egorov et al., op. cit., 3rd edition, p. 183.
55. For example, see A.A. Gromov and N.P. Krechetnikov, Grazhdanskaya Oborona Promyshlennogo Obekta (Civil Defense at an Industrial Enterprise), 2nd edition, (Moscow: Atomizdat, 1975), p. 70.
56. For example, see Ibid., p. 76; Colonel N. Zvyagin, "Staff Drill in a Rayon," Voyennyye Znaniya, No. 5, May 1976, pp. 31-32.

CONTROL COUPON																													
Full Name _____		FOR USE BY EVACUATION ASSEMBLY POINT NO. _____																											
Year and Place of Birth _____		Address _____																											
Permanent Residence _____		Time for Reporting _____ (Day, Hour)																											
(City, Inhabited Point, Street, House No.)		Full Name _____																											
Departing to _____		Year and Place of Birth _____																											
(Oblast, Rayon, Inhabited Point, Street, House No.)		Permanent Address _____																											
Accompanied by:		(City, Rayon, Inhabited Point, Street, House No.)																											
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Signature of Recipient _____		Destination _____																											
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Signature _____		Date/Signature _____																											
FOR PERSONAL IDENTIFICATION		INSTRUCTIONS																											
Identifies _____ (Full Name)		1. When the start of the evacuation (dispersal) is announced, it is essential to: <i>Take along passports, military service book, education and specialization diplomas, workbook, childrens' birth certificates, food (for 2-3 days), water, underclothing, shoes, sleeping clothes, warm clothing and other essential things, for a total weight of up to 50 kg per person.</i>																											
Year and Place of Birth _____		2. All pre-school children must have sewn on their clothing and underclothes identifications with their family name, first and middle name, date of birth and permanent address.																											
Permanent Address _____		3. Report to the assembly point at the time indicated on the control coupon.																											
Evacuated Through SEP _____ (No., Address)		4. Before leaving the apartment, turn off all lights and heating utensils, gas and water lines, windows and ventilators, and turn over keys to representative of housing management (Zhek).																											
TO _____		5. The evacuation pass gives the right to evacuation (dispersal) through a specific evacuation point, free transportation to hosting location, assignment of housing, work, and all types of supplies.																											
(Oblast, Rayon, Inhabited Point, Street, House No.)																													
Accompanied by:																													
No.	Family Name and Initials	Relationship	Year of Birth	Place of Work or Study																									
Date/Signature _____																													

SOURCE: N.I. Akimov and V.G. Il'in, *Grazhdanskaya Oborona na Obektakh Sel'skokhozyaystvennogo Proizvodstva*, (Moscow: Kolos, 1973), pp. 144-145.

Figure 6.2 Evacuation Pass

Section 6

FOOTNOTES

1. L. Antipov, "Evacuation and Dispersal," Voyennoye Znaniya (Military Knowledge), No. 7, July 1982, p. 32.
2. P.T. Egorov, A.A. Shlyakhov and N.I. Alabin, Grazhdanskaya Oborona (Civil Defense), 3rd edition, (Moscow: Vysshaya Shkola, 1977), p. 88; N.P. Krechetnikov and N.P. Olovyanishnikov, Grazhdanskaya Oborona na Mashino-Stroitel'nykh Predpriyatiyakh (Civil Defense at Machine-Building Enterprises), 2nd edition, (Moscow: Mashinostroyeniye, 1972), p. 60; Army General A.T. Altunin, editor, Grazhdanskaya Oborona, (Moscow: Voenizdat, 1980), p. 44.
3. Egorov et. al., op. cit., p. 88; Lieutenant General D.A. Krutskikh, Uchebno-Metodicheskoye Posobiye po Podgotovke Rukovodvashchego i Komandno-Nachal'stvuyushchego Sostava Grazhdanskoy Oborony (Study-Methodological Manual for the Training of the Chiefs and Command-Leadership Elements of Civil Defense), (Moscow: Voenizdat, 1978), p. 24.
4. Egorov et. al., op. cit., pp. 88, 89; N.I. Akimov and V.G. Il'in, Grazhdanskaya Oborona na Obektakh Sel'skokhozyaystvennogo Proizvodstva (Civil Defense at Installations of Agricultural Production), 2nd edition, (Moscow: Kolos, 1978), p. 104.
5. Yu. Pavliy and M. Tsvilev, Evakuatsiya Naselniya Gorodov-Sposob Zashchity ot Yadernogo Oruzhiya (Evacuation of the Population of Cities—A Method of Protection Against Nuclear Weapons), (Moscow: DCSAAT, 1965), pp. 10-11; N.I. Akimov, M.L. Vasilevskiy, I.D. Makarov, L.P. Rusman and M.P. Umnov, Grazhdanskaya Oborona, (Moscow: Kolos, 1969), p. 69; P.T. Egorov, I.A. Shlyakhov and N.I. Alabin, Grazhdanskaya Oborona, 2nd edition, (Moscow: Vysshaya Shkola, 1970), p. 116; N.I. Akimov and V.G. Il'in, Grazhdanskaya Oborona na Obektakh Sel'skokhozyaystvennogo Proizvodstva, (Moscow: Kolos, 1973), p. 148.
6. Akimov, Vasilevskiy et. al., op. cit., p. 69.
7. Egorov et. al., 3rd edition, p. 89; Akimov and Il'in, op. cit., 2nd edition, p. 104.
8. Egorov et. al., op. cit., 3rd edition, p. 89.
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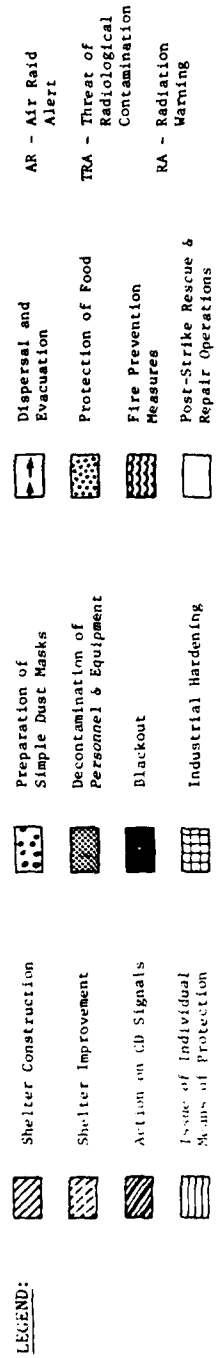
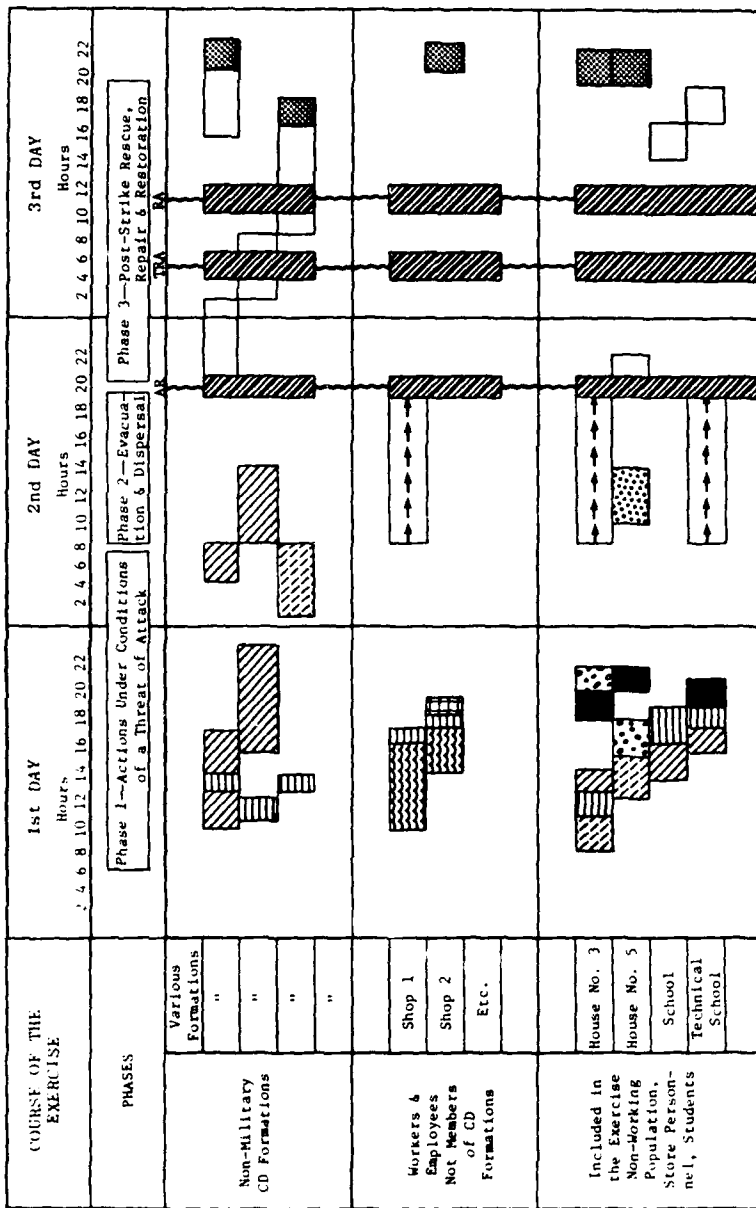


Figure 10.1 Diagram of a Suggested Plan of an Integrated Exercise

Section 10

FOOTNOTES

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Section 11

CONCLUSIONS AND POSSIBLE IMPLICATIONS
FOR U.S. CIVIL DEFENSE

Crisis relocation is an important and long-standing element of post-World War II Soviet civil defense plans and programs. Soviet civil defense leaders and planners believe that under appropriate conditions and with adequate organization and preparation crisis relocation can be a very effective method of protecting the mass of the urban residents and industrial workers in high-risk areas from enemy nuclear strikes. They also have been well aware that a capability to implement crisis relocation can be attained much sooner and relatively more cheaply than the construction of sufficient blast shelters to protect the urban population in place. Given the attention it has received over many years in the Soviet Union, it can be said that Soviet crisis relocation concepts are well developed, comprehensive, and appear to be devoid of significant gaps.

While admitting the undisputed utility of crisis relocation, Soviet civil defense leaders have developed some misgivings about sole or primary reliance on this method for protection of the population. In all but one respect, however, these misgivings have not paralleled public and media criticisms of crisis relocation in the U.S. Arguments heard in the U.S. about the alleged destabilizing and provocative character of crisis relocation, its lack of realism, practicality and impossibility of rapid implementation, the unacceptable vulnerability of the population while the relocation is in progress, the dangers of enemy strikes on the evacuated population in hosting areas, and so on have not been publicly raised and appear to be discounted in the Soviet Union. In their public statements, Soviet leaders and spokesmen insist that all civil defense measures, including crisis relocation, are merely humanitarian in purpose and, consequently are neither destabilizing nor provocative. Furthermore, they appear to believe that neither side would target the population per se, and they insist that strikes against a dispersed population are unlikely because they would be ineffective and wasteful of valuable nuclear assets.

Since the late 1960's, however, Soviet leaders have been concerned over war initiation scenarios which would give the Soviets little prior warning of an enemy attack and thereby preclude the implementation or completion of crisis relocation. Consequently, from the early 1970's Soviet civil defense publications ceased to identify crisis relocation as the "main" method of protecting the urban population and increased emphasis was placed on developing capabilities to shelter the population in place as an insurance against worst-case war initiation scenarios. Even so, the Soviets did not discount the possibility of other scenarios which allow for sufficient strategic warning to implement crisis relocation.

The current Soviet emphasis on shelter construction does not mean that the Soviets have changed their views on the utility of crisis relocation as an effective measure to protect the population. There are several reasons for this. One is not only the high cost but also the long lead-time required to provide the entire population in high-risk areas with effective shelters. At the present time, the Soviets appear to still be far from having such a shelter capability. Another reason is the recognition that losses among a sheltered population from enemy strikes in likely target areas will probably be significantly greater than among a relocated and dispersed population. More important is the Soviet belief that relocation of leadership elements and other valuable personnel, as well as of essential industrial workers, is necessary in order to ensure their ability to perform their critical duties under war conditions. In particular, it is considered impractical to keep essential workers in the cities in order to maintain key industrial enterprises, utilities, and services in continuous operation. Finally, given that Soviet civil defense intends to conduct large-scale rescue, damage-limiting, repair and restoration operations in areas damaged by nuclear strikes, there is a requirement for relocating the major part of the urban civil defense forces to exurban areas in order to ensure their ability to carry out this mission. Essentially, therefore, there is—and will continue to be—not only a Soviet

preference for executing crisis relocation in circumstances that permit doing so, but also a requirement for relocating select but significant numbers of urban residents regardless of existing shelter capacities in the cities and at industrial enterprises. There is every reason to expect that this requirement will remain in force even if the U.S. announces its commitment to a city-avoidance targeting strategy.

Crisis relocation concepts and plans inevitably reflect a given country's political, governmental, economic, social and value systems. In addition, they reflect a country's views on the likely character of the initiation and conduct of a possible nuclear war and on the wartime requirements for logistic and economic support of the armed forces, as well as the probable duration of the evacuees' stay in the hosting areas and the available resources for implementing the relocation.

In the case of the Soviet Union, its crisis relocation concepts, plans and methods of implementation undoubtedly benefit from, and are facilitated by, the Soviet system of centralized political and state authority, the state ownership of the economy and its degree of control over the population, as well as by the existence of a centrally-directed, hierarchically structured, country-wide civil defense organization. This means that the participation of government and economic organizations, public services, as well as civil defense staffs and forces at all levels in crisis relocation planning and implementation is compulsory. It also means that the authorities can designate which cities and installations will be subject to crisis relocation, the order of priority of relocation of various elements of the population, which hosting areas will be used and how transportation will be allocated. Furthermore, the authorities have the ability to prohibit and prevent all independent and uncontrolled relocation by the population, establish schedules for departure of all elements of the population subject to relocation, and assign to each urban resident (i.e., individual or family) his destination in the hosting areas. Finally, it makes possible not only effective planning of the use of all means of transportation but the identification of those urban

residents who will be required to leave the cities on foot in organized groups and the designation of their travel routes and destinations.

There is no doubt that Soviet insistence on the need to keep essential urban industrial enterprises, installations and services in operation during wartime has a significant effect on Soviet crisis relocation concepts and plans. First, this means that in the Soviet view certain elements of the population are more valuable than others for purposes of maintaining command and control, sustaining the war effort and civil defense operations, as well as preserving capabilities for post-strike reconstitution and postwar recovery. Consequently, just as in the matter of shelter availability, so in the matter of crisis relocation such elements will have priority over less valuable elements of the population. In the Soviet Union such differential treatment of the population is not seen as raising political or morale problems. Second, this gives rise to the concept of "dispersal" of essential personnel and of "evacuation" of non-essential urban residents, which in turn affects the selection of hosting areas appropriated to each of these categories and, to a considerable extent, the allocation of transportation. In particular, it means that essential personnel (and their family members) must be relocated by and through their places of employment, that each essential enterprise and installation must keep its employees together in the assigned hosting areas—which requires the assignment in advance of dedicated hosting localities, and that the selection of the latter must facilitate the commuting of workshifts to the cities. It should be noted that the concept of maintaining essential production and other economic and service activities in crisis situations and in wartime tends to mitigate the economic costs and disruption caused by crisis relocation and, consequently, makes a protracted relocated posture more tolerable to the state and society.

Soviet insistence on crisis relocation being highly organized, managed and controlled, thus making its implementation predictable, greatly facilitates planning and preparations at all levels. In the

urban areas the civil defense staffs and evacuation commissions can develop detailed plans which determine precisely which persons will be "dispersed" or "evacuated," how they will be assembled and processed, when they will depart, by what means they will leave the cities and what routes they will use, and to which hosting localities they will proceed. In their turn, the hosting areas and localities—knowing in advance which urban organization is assigned to them, how many evacuees will arrive, approximately when they will arrive and by what means—can prepare their plans for the reception, housing, anti-radiation protection, supply and essential service support of the evacuees. Furthermore, given that hosting localities are allocated to urban industrial enterprises, installations, departments, institutions, as well as rayons already in peacetime, they can ascertain the capabilities of the infrastructures of their assigned hosting localities and, where necessary, make plans to help upgrade them. The problem of housing evacuees is eased by the system of compulsory quartering of evacuees in the homes of local residents.

In order to manage and control crisis relocation, the Soviets require a system of evacuation assembly points (SEPs) in the urban areas for the purposes of assembling and processing the various groups of evacuees, organizing their departure and boarding of transport according to planned schedules and ensuring that the appropriate groups are sent to designated destinations. This in turn necessitates a staggered scheduling of the populations' arrival at the SEPs and therefore requires that the various elements of the population be informed of the times they must report to their assigned SEPs. The system of relocating the urban population through SEPs is somewhat cumbersome and not without problems. The requirement for processing the population through the SEPs not only introduces some delays in the initiation of its departure from the city, but the very large numbers of SEPs in simultaneous use in each city is likely to cause a great deal of confused movement by the residents.

Prior to 1975, there appeared to be an effective system of control over the population during crisis relocation based on issuing to urban

residents special evacuation passes (or coupons). These passes provided instructions on the arrival time of the bearers at the SEPs and their location, the evacuees' destinations, as well as information on personal baggage to bring along. They also were intended to identify the evacuees during processing at the SEPs, in the course of the relocation and in the hosting areas, and were used by the authorities to keep an accurate count of the departing evacuees and a record of their whereabouts. Precisely why this system was abandoned, especially in view of the fact that Soviet citizens are normally required to have various personal identification documents, military service and work books and so on, is not clear. Possibly it may have been a question of maintaining secrecy about the hosting locations of essential workers and other valuable personnel or a desire to avoid alarming the public. It is also possible that as a general rule it was decided to fill in the passes and issue them only in the event of an actual crisis relocation, which would have delayed its implementation.

The present system is based on lists of workers, employees and members of their families prepared by the places of employment and of non-working persons prepared by the housing administrations where they reside, or in the case of students, prepared by the administrations of educational institutions. These lists will be used by the SEPs to register the evacuees and to check their right to be relocated by a particular enterprise, installation, institution or residential area. Unlike the earlier evacuation passes which indicated the evacuee's destination, the present system does not appear to provide him with such documentation. This may increase the possibility that people will get lost or proceed to wrong destinations. Consequently, this places greater responsibility on the evacuation reception points (PEPs) in the hosting areas to ascertain, presumably on the basis of personnel lists provided by appropriate urban evacuation commissions, whether the arriving evacuees are authorized to stay in a given hosting locality. Fundamental to control is the policy of denying housing and food to persons not authorized to be in a given locality.

The peculiarities of Soviet transportation have both favorable and unfavorable implications for crisis relocation. On the favorable side, the absence of large numbers of privately owned motor vehicles and therefore the dependence of the urban population on transportation provided by the authorities, facilitates control over the movement of the population and the optimization of the use of all available transportation means and routes. The Soviet authorities have the advantage of being able to mobilize and requisition all available means of transportation regardless of their ownership for use during the relocation. The organization of motor vehicles into convoys facilitates movement scheduling and traffic control and ensures that the vehicles will proceed only to designated destinations. The system of fixed and mobile feeding and repair points along the roads will contribute to a smooth flow of traffic, a more rapid turnabout of vehicles, as well as better planning for the allocation of appropriate resources.

On the unfavorable side, the USSR suffers from a relative shortage of transportation and all-weather roads. This fact along with Soviet climatic conditions tends to make the railroads the primary year-around carrier for transporting evacuees. A further difficulty is that military traffic on railroads and roads will be given priority and may result in the closing of some highways to the transportation of urban evacuees. Furthermore, a portion of available motor vehicles will be retained by the relocated civil defense forces. Undoubtedly this will interfere with the relocation process and makes it necessary for urban civil defense staffs to carefully coordinate their transportation plans in advance with the military authorities. The shortage of transportation, especially of motor vehicles, has the effect of generating a requirement for multiple round trips by vehicle convoys in the course of the relocation. This results in limiting the distances that the motor vehicle convoys will travel from the cities during the initial phase of the relocation. Another consequence of the shortage of transportation is the necessity of having to move a portion of the urban population from the cities on foot.

As in the case of use of transportation, so in the case of evacuation on foot—Soviet plans envisage the movement to be well organized and controlled. The objective of relocating a portion of the population on foot is to accelerate the rate of the population's departure from the cities and especially to maximize the number of urban residents who can be moved in the shortest time beyond the range of the prompt effects of possible nuclear strikes on urban targets. In principle and probably largely in practice, such relocation will primarily be confined to the younger and more physically fit elements of the population and, according to plans, in most instances it will be limited to a one-day march from the cities. The organized groups will depart according to established times and follow mapped routes which will be provided at various points with water supply, warming facilities (in winter), fixed and mobile medical aid posts, and intermediate evacuation points (PPEs) in rural localities where the marching groups will wait for transportation to their final destinations.

The actual rate of relocation of the Soviet urban population is difficult to predict. It is very unlikely that in the course of a crisis any significant portion of this population would leave the cities voluntarily and without official orders prior to the government's announcement of crisis relocation. Of course, the Soviet authorities may institute a covert selective relocation of various elements of the population prior to ordering general crisis relocation. In general, it appears that with the steady improvements in Soviet transportation capabilities and the expansion of the road net, it may be possible, in the case of most Soviet cities, to organize the departure of a majority of their residents in some 48 to 72 hours.

Soviet planners recognize that crisis relocation requires not only the organization of rapid departure of the population from high risk cities, but also advanced planning and preparation of the reception, housing, supplying, and anti-radiation protection of the evacuees by the hosting areas. Given that in a large measure each city's hosting area will be unique, there will be considerable variations in the infrastructure

of the hosting areas and different needs for additional preparatory measures to give them the capabilities to host the evacuees assigned to them. Therefore, in crisis relocation planning attention is paid to the availability in the hosting areas of housing, food stocks, food processing, preparation and catering capacities, medical facilities and stocks of medical supplies, water supply, sanitation, transportation capabilities, and anti-radiation shelters or of stocks of building materials necessary for their construction. In principle, the authorities in the hosting areas will take steps in peacetime to remedy deficiencies in their areas' infrastructure either by their own efforts or with the assistance of the urban organizations they are expected to host. In the case of cities with no significantly developed and inhabited surrounding areas (especially in northern USSR and Siberia), the urban civil defense forces and residents will build temporary housing and shelters and other support facilities in designated locations in the wilderness.

Although there is a requirement for the hosting areas to maintain in peacetime, or develop in time of crisis, food stocks to feed urban evacuees, their planned size is not known. Probably the sizes of the stocks will vary depending on a number of factors, such as a given area's food production, storage capacities and normal amounts of stored food supplies, the planned hosting ratios, and the expected amounts of supplies which will be relocated from the cities to the hosting areas. There appear to be indications that special protected stocks of food specifically for use in the event of crisis relocation may be maintained in hosting areas near large cities. Even so, it is likely that the food stocks in the hosting areas for feeding the evacuees will suffice for a limited period of time, i.e., weeks or a few months. They appear to be intended primarily for use during the initial period of the relocation and in the event of a temporary cessation of agricultural production or the disruption of transportation by enemy strikes. Soviet planners assume that following such a period it will be possible to move and redistribute other state reserves of food from other areas and also resume agricultural activities. Of course, there will be stringent food rationing in the hosting areas as well as throughout the country.

A major difficulty in crisis relocation is the preparation of sufficient anti-radiation shelters to protect the evacuees as well as local residents in the hosting areas. While it is possible to adapt in peacetime existing basements, cellars and other structures in the hosting areas for use as anti-radiation shelters, they may not suffice to accommodate all the evacuees. Simple anti-radiation shelters (i.e., dugouts, covered trenches, etc.), however, tend to deteriorate fairly rapidly which discourages their construction in advance of crisis relocation. Consequently, although published Soviet reports do mention instances of rural localities where, during civil defense exercises, sufficient shelters were built to accommodate evacuees, it appears that in general the present practice is for hosting areas to stock building materials in readiness for the construction of such shelters in an actual crisis. Although these shelters can be rapidly erected, especially with the use of mechanized earth digging and moving equipment, the time required for their construction must be added to the relocation time before the evacuees can be said to be effectively protected.

The extent of the role played by the military—civil defense troops in particular—in the implementation of crisis relocation is not known. To a certain extent it will depend on such factors as whether the armed forces are in the midst of mobilization and deployment or have completed these activities. There are indications that if circumstances permit, military units will assist crisis relocation, at least selectively, in various ways such as: road improvement, maintenance of order and traffic control, communications, construction of shelters, water reservoirs and other essential facilities, supplementing civilian medical services, providing mobile power units, and so on.

Information on crisis relocation exercises in the USSR is fragmentary. There are indications that crisis relocation is included in civil defense command-staff exercises at all levels and also in integrated civil defense exercises held regularly at industrial enterprises, installations, educational institutions and also in rural rayons, settlements

and collective and state farms. For a variety of reasons, however, the scale of these exercises usually appears to be small. Most often they involve either elements of off-duty workers and members of their families or students of vocational or technical schools. The exercises may include both relocation by transport and on foot. While instances of moving several hundred or thousand persons to hosting areas are reported in Soviet publications, the latter also indicate that in many cases the exercises are limited to the deployment of SEPs and PEPs.

Although the small-scale crisis relocation exercises being held throughout the USSR undoubtedly serve to train the organizations and personnel charged with implementing the relocation and to test their plans and state of readiness, it is uncertain whether they can provide reliable indications of how well Soviet plans, schedules, etc. will actually work in the event of a massive relocation of the urban population. Of course, for economic and political reasons and because of fear of possible misinterpretations abroad, it is considered impractical in peacetime to hold exercises involving the relocation of the entire population of large cities. Consequently, a certain degree of uncertainty about the execution of crisis relocation is likely to persist. In particular, there may be more confusion and delays in the reporting of the population to the SEPs and in the arrival and departure of transport than Soviet plans allow for, and it may be impossible to adhere to the tight schedules for the assembly of evacuees and the boarding of transportation. Exercise results also cast some doubts on the ability of marching columns to adhere to movement schedules. Furthermore, one must anticipate that the civil defense chiefs, staffs, services, formations and the evacuation commissions will not all be equally well trained and efficient. Even so, there is no basis for believing that the relocation plans will be badly disrupted and that there will be long delays in the movement of the population from the cities.

Concerning the question of possible implications of Soviet crisis relocation organization, plans and management for U.S. civil

defense, it is important to keep in mind the many areas of fundamental differences between Soviet and U.S. governmental, societal, economic, population control and civil defense systems. There are also important asymmetries in the two countries' capabilities to implement crisis relocation. Even so, certain aspects of Soviet crisis relocation could be of interest for and may possibly have some application in U.S. crisis relocation planning (CRP).

1. The persistence of Soviet interest in crisis relocation of potentially threatened cities and the Soviet requirement to relocate essential workers and urban civil defense formations regardless of the availability of blast shelters in the urban areas are important arguments in support of U.S. CRP. The relevant question for U.S. planners appears to be not whether the Soviet Union will practice some sort of crisis relocation, but how rapidly it can carry it out. In principle, large differences between the Soviet Union and the U.S. in the time required for implementing and completing crisis relocation may leave the U.S. vulnerable to Soviet coercion or, in the event of a Soviet attack, may result in significantly larger U.S. population losses.

2. Soviet crisis relocation provides a good example of all the factors and elements which need to be taken into account for a comprehensive approach to and planning of crisis relocation. The Soviet example strongly suggests that the orderliness and speed of crisis relocation depends, in addition to good organization and careful planning and efficient use of available resources, on the exercise of effective control over the actions of the population in the course of the relocation and in the hosting areas. Rates of relocation will be affected not only by the organization of the departure of the population from the cities, but also by what is done to facilitate a smooth flow of movement (transportation) to the hosting areas. Also important is the development of methods for achieving a desirable distribution of evacuees among hosting areas and attention to the improvement of the latter's infrastructure to meet the material and other requirements for a protracted stay by urban evacuees.

3. The Soviet concept of "dispersal" of essential workers appears to be worthy of consideration if the U.S. also decides to maintain some essential services and production activities in the cities following crisis relocation. It would not be practical to keep all essential workers continuously in the cities for a protracted time even if they are provided with blast shelters. Aside from morale, control and supply problems, this approach would keep the entire force of essential workers at risk and, in the event of an enemy attack, could result in greater losses among them than if only one shift at a time is present in high risk areas. It is also likely that prolonged separation of the workers from their families would be unacceptable to both. The "dispersal" concept, however, requires that essential workers and members of their families be relocated together according to their places of employment, service or missions in the cities; that they be provided with dedicated hosting areas selected with the view of facilitating the commuting of workshifts to and from the cities; that the necessary means are maintained to transport these workers to and from work; and that all necessary conditions are created in the hosting localities to minimize demands on the workers' time and labor to sustain and protect them. There is also a requirement to give such essential workers training in civil defense.

4. One consequence of plans to keep significant numbers of essential workers in high risk areas is the necessity to organize civil defense forces and capabilities to come to their assistance in the event of enemy strikes on the cities where they are working. The conduct of rescue operations will require forces which are significantly larger than the number of essential workers in the target areas. In order for such forces not to be pinned down by enemy strikes in the urban areas, they must be either relocated from the cities prior to enemy strikes or they must be organized on the basis of human and material resources normally present in exurban areas. Although, from a practical viewpoint the ability of such forces to conduct post-strike rescue operations will largely depend on the radiological environment and therefore is fraught

with uncertainties, the existence of such a force nevertheless is essential if elements of the essential work force are to be continuously kept in high risk areas.

5. The earlier Soviet system of issuing the urban population evacuation passes in advance of any crisis relocation may be worthy of some form of application in the U.S. It is important for CRP to encourage the urban population to proceed to pre-designated hosting areas along designated routes and in such a manner that it is distributed in the hosting areas in accordance with plans and the hosting localities' capabilities. In principle, the issuing of evacuation passes may serve a number of useful purposes: It would assign hosting areas or localities and inform the recipients of their location; it may ensure a better use of routes; it could help identify essential workers and direct them to dedicated hosting localities; it could contain instructions about how the population should act, what it should take along, where it should look for assistance, and so on. It appears likely that in the U.S., with the possible exception of essential workers, the assignment or allocation of hosting areas will be best made in accordance with the individuals' (and families') places of residence. Of course, it will be important to persuade the population that it should proceed to designated hosting areas because they are prepared to receive and care for the evacuees assigned to them. As in the Soviet Union, the passes could serve to identify the evacuees, possibly facilitate their redistribution among hosting localities following their arrival, provide the local authorities with some means of keeping count of and control over them (if a segment of the evacuation pass is used for registering the evacuees in the hosting areas), and permit a more effective use of available resources.

6. The Soviet concept of assigning as far as possible hosting areas to cities within the boundaries of states where the latter are located is sensible. The same can also be said about the basic principle of moving the urban population the shortest possible distance commensurate with its safety and the character of the exurban area from the cities.

Obviously, the greater the distances the evacuees are required to travel, the more the relocation will be protracted and the greater the likelihood of difficulties and delays in their movement and of their maldistribution in the exurban areas.

7. Soviet strategic targeting doctrine appears to have relevance for the selection of hosting areas in the U.S. According to this doctrine, the population would not be targeted per se and, in addition to military targets, Soviet strikes would be aimed primarily at key economic targets whose distribution could directly influence U.S. warfighting and control capabilities. This suggests that it may not be necessary for the U.S. to seek maximum dispersal of the relocated population in hosting areas, which may create major control and support problems. For example, use could be made, for hosting purposes, of all towns with populations of up to 50,000 or more if they do not contain significant strategic targets. In such cases, hosting ratios of two or three evacuees to one local inhabitant may be practical and safe.

8. Even though in the U.S. the major portion of the urban population will be expected to leave the cities using privately owned vehicles, there will be a requirement to organize the transportation of those elements of the urban population which will be unable to do so. Indeed, it may be desirable to encourage, either in general or selectively, the urban population to use non-private means of transportation. This should include the use of railroads, river boats and coastal vessels, as well as publicly owned buses and trucks. The well-organized use of railroads and ships is likely to result in a more rapid arrival by evacuees using them in hosting areas than by those traveling by motor vehicles. In the case of elements of the population not using private vehicles, passenger pick-up stations for public buses and trucks ideally should be located at terminal stops of subways, streetcars and trolley buses furthest from the city centers. This presumes, however, that these latter systems will remain in operation at least during the initial stage of the relocation. In any event, transportation pick-up points for persons not traveling by private vehicles

should be known to the urban population in advance and also publicized in the course of the relocation process. The Soviet concept of organizing public motor vehicles into convoys, each with an assigned leader, appears to have some merit because it may help maintain discipline among the drivers, facilitate the organization of round trips, and increase the likelihood that the passengers will be delivered to designated hosting localities.

9. The maintenance of a reasonably smooth flow of motor vehicles on the roads will depend in part on minimizing disruptions resulting from vehicle breakdowns, collisions and running out of gas. Reliance only on fixed fueling and repair facilities which normally exist along relocation routes is unlikely to meet the needs and, in fact, may contribute to traffic jams and delays. For these reasons, the Soviet system of organizing mobile fueling, repair and towing units along relocation routes appears to be a sensible approach to the problem.

10. It is obvious that the careful, indeed comprehensive, preparation of hosting areas to receive, house, feed and supply, medicate, service and shelter urban evacuees is essential for an effective crisis relocation and the credibility in public eyes of the crisis relocation concept. This requires, in addition to appropriate planning, the implementation in peacetime of various measures to ensure that the hosting areas' infrastructure is adequate to meet the expected requirements. The Soviet approach to this problem suggests the need for particular attention in hosting areas to such issues as the adequacy of water supply, food stocks and food processing and catering capabilities with fuel for this purpose, medical facilities and stocks of medical supplies, stocks of building materials for the construction of rapidly erectable anti-radiation shelters, etc. There is also great merit to Soviet concepts of careful preplanned relocation and assignment to hosting areas of urban medical facilities and personnel to augment existing medical facilities there or to set up new ones on the basis of stocked medical supplies and equipment. As far as possible, physicians in private practice should be instructed in advance

to either join urban medical organizations in the course of the relocation or report to designated medical facilities and health services in the hosting areas. Finally, the Soviet concept of organizing mobile field kitchens for feeding evacuees, especially in hosting areas with insufficient public feeding facilities is sensible and worth noting.

11. The Soviet system of population control is alien to the American system of government and values. Nevertheless, some degree of control during crisis relocation and in hosting areas will be essential to prevent behavior which may jeopardize the safety and survivability of the population. It would appear that serious attention will have to be given to problems of traffic control and management. In the hosting areas, experience with past disaster situations suggests that the distribution of food and basic necessities provides the authorities with a potent instrument of control. Other instruments of control may include: the organization of evacuees into relatively small groups, each with an appointed or elected leader (possibly these leaders could also serve as shelter managers); the establishment of a public order and safety service utilizing, among others, relocated urban police and security personnel; the setting up of various administrative and service organizations largely manned by evacuees for dealing with evacuees' problems. Finally, from the viewpoint of control as well as economics and morale it will be desirable to find useful work or occupations for as many evacuees as possible in the event of their protracted stay in the hosting areas.

12. There is no parallel in the U.S. to the Soviet compulsory civil defense instruction program for the general population. It should be noted, however, that the Soviet instruction of the population in crisis relocation is relatively simple and brief. Of course, in the Soviet Union, the population does not question the utility or practicality of crisis relocation, and it is required to show little initiative in implementing it. Basically, all it is asked to do is to report to designated evacuation assembly points at specified times. In the case of the U.S., however, a major part of the urban population will have to exercise far greater initiative because its possession of private means of transportation will give it the capability to

take independent actions. Nevertheless, it is probably true that relatively simple and brief instructions will suffice also in the U.S.—that is, instructions which tell the public when to leave, where to go and what routes to use, or alternatively when and where to find public transportation. In the case of the U.S., however, the question of the credibility of CRP and of the willingness of the public to implement it is far more serious than in the Soviet Union. There is, therefore, a requirement to educate the public in this matter which goes well beyond the specific instructions on actions to be taken in the event of crisis relocation. The population must be convinced that crisis relocation is a credible and realistic survival concept. It must be given an incentive to proceed to designated hosting areas and have confidence in the capabilities of these areas to receive, sustain and protect the evacuees for an indefinite period of time. The public must also be persuaded that a reasonable span of time will probably be available for implementing the relocation. Another subject of instruction of the population concerns the construction of rapidly erectable anti-radiation shelters in the hosting areas. In the Soviet Union, instruction in the construction of such shelters is given to the general public in the course of the compulsory civil defense training program and in greater detail to the multi-million members of the civil defense forces. Presumably, crisis relocation in the U.S. as well as in the Soviet Union will coincide with a large volume of construction of such shelters or the adapting of existing facilities for use as shelters, in which the evacuees will be required to actively participate. While the Soviet system of public instruction is not applicable in the U.S., there will be a need, nevertheless, to train a significant number of persons in how to build such shelters using various building materials, as well as prepare detailed instructions on shelter construction for distribution to the evacuees. Whether instruction in anti-radiation shelter construction should be given primarily to personnel recruited from various public services, civil defense organizations and construction workers in the hosting areas or should include similar personnel in urban areas will need to be determined.

There is no doubt that rapid crisis relocation of tens of millions of urban residents is a formidable and complex undertaking. Indeed, it is one of the most difficult in any civil defense program. Its implementation requires comprehensive planning, effective organization and extensive preparations, as well as some form of instruction of the population. There are no illusions on this score among responsible civil defense officials, either in the Soviet Union or in the U.S. Despite the inherent difficulties of crisis relocation, however, analysis of Soviet concepts, organization, plans and preparations indicate that the Soviet Union has developed it into a practical and effective method for protecting its urban population against enemy nuclear strikes and, indeed, recognizes that it is a better method of protection than sheltering the population in-place. The existence of this Soviet capability and its implications for Soviet crisis management and war survival should not be ignored by the United States.